IBM System Storage DS8700 Disk Storage
75.xx.xx.x Release Notes Cumulative Summary v2

Date: January 12, 2012

Update: Create new summary document

VRMF Level Data Results:

VRMF level From:	75.0.158.0
VRMF Level To:	75.15.92.0
Report for:	DS8700

Select Modifications Included in this Release Note:

This is a list of some modifications contained across one or more LIC (License Internal Code) or microcode release(s). The potential impact is variable. Specific environments may aggravate or degrade the potential impact.

Problem(s) reported in this release note may not be in higher levels of code bundles.

Definition of Problem Severity:

1 HIPER   - Acute: An irrecoverable error with potential loss of data.
                     - Serious: An irrecoverable error with potential loss of access to data.
2 Moderate   - A function not operational and/or performance might be degraded.
3 Service   - A recoverable error (no impact) and service improvements.
4 Improvements   - Improvement changes for better Usability and Serviceability.

Pervasive: Problem with 3 or more occurrences

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Acute: An irrecoverable error with potential loss of data

No call home for serviceable events identifying MAP3200

1. **Problem Description:** There is no call home for serviceable events that MAP3200 needs to used, there is customer notification only. This event needs to call home as it indicates DDMs with media errors.
2. **Potential Impact of Problem:** Data loss
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 75.15.84.0
ID#: 260933

Fence host adapter for SMP mail error

1. **Problem Description:** Mark host adapter as fenced when SMP mail error is detected when in single cluster mode.
2. **Potential Impact of Problem:** Data loss
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 75.15.67.0
ID#: 254572

DDM error in RAID10 array results in kill sector data loss

1. **Problem Description:** DDM failure in a RAID10 array can result in a kill sector due to a microcode error.
2. **Potential Impact of Problem:** Data loss
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 75.15.59.0
ID#: 248735

Volume creation failure caused by warmstart

1. **Problem Description:** Warmstart occurred during volume creation. After warmstart the redrive of the operation to create the volume failed to properly update the metadata, leaving the volume inaccessible.
2. **Potential Impact of Problem:** Data loss if machine IML occurs
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 75.15.41.0
ID#: 249472

Serious: An irrecoverable error with potential loss of access

Serviceable event text uses logical name for power supplies

1. **Problem Description:** The serviceable event text uses the logical name of power supplies, PPS0/1 should be PPS1/2. The wrong power supply will be serviced when using SRC BE321319 or BE32131A.
2. **Potential Impact of Problem:** Loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 75.15.92.0
ID#: 259006

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Internal I/O Fabric error causes DA cache read command to hang
1. **Problem Description:** An I/O fabric error causes a DA cache read command to hang due to an internal microcode error.
2. **Potential Impact of Problem:** Loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 75.15.84.0
ID#: 256941

Host adapter light to the link not turned off when port is unusable
1. **Problem Description:** When an I/O fabric failure prevents communication to a host adapter from both clusters the host adapter will keep the light on the links until the adapter panic occurs 4 minutes later. The HA light will be turned off after 30 seconds when an I/O fabric error prevents communication to a host adapter.
2. **Potential Impact of Problem:** Loss of access (SVC hosts)
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 75.15.84.0
ID#: 251707

Recursive warmstart when I/O bay is fenced
1. **Problem Description:** When an I/O bay is fenced due to fabric fault and is also fenced during I/O fabric recovery it is possible for loss of access due to a microcode error.
2. **Potential Impact of Problem:** Loss of access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 75.15.84.0
ID#: 254860

DDM intermix does not call home when no spares for drive type
1. **Problem Description:** DDM intermix is two DDM sizes and or drive speeds on the same DA pair. Due to microcode error if the last spare of the larger size is used no call home is generated. Another DDM failure will an array to become exposed and the array will be in read only mode.
2. **Potential Impact of Problem:** Loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 75.15.84.0
ID#: 258155

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Host adapter detects parity error during warmstart
1. **Problem Description:** The entire host adapter microprocessor stack is read during warmstart. If a parity error is detected during this read a second warmstart will occur.
2. **Potential Impact of Problem:** Loss of access is possible
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 75.15.84.0
ID#: 248184

Host commands to undefined LUN ID causes loss of access
1. **Problem Description:** When a host issues a command to a LUN that is not defined to the control unit a microcode error will result in a dual cluster reboot.
2. **Potential Impact of Problem:** Loss of access
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 75.15.67.0
ID#: 252147

Host adapter link remains active after adapter is fenced
1. **Problem Description:** When a host adapter is fenced the link signal from the host adapter remains active. This condition will cause loss of access for an SVC host type.
2. **Potential Impact of Problem:** Loss of Access
3. **Problem Severity:** HIPER
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 75.15.59.0
ID#: 252947

OpenVMS host unable to access LUN
1. **Problem Description:** OpenVMS can not access LUNs due to the way DS8700 responds to set or report identifying information SCSI commands.
2. **Potential Impact of Problem:** No access to LUNs
3. **Problem Severity:** High Impact
4. **Pervasive Problem:** No
5. **Release Bundle:** 75.15.41.0
ID#: 249251

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Potential loss of access due to an Rack Power Control (RPC)
to Central Electronics Complex (CEC) communication problem
1. Problem Description: DS8000 users running release 3.0 or higher microcode (63.0.x.x) may be exposed to a low frequency but high impacting RPC communication logic state preventing communication from both CECs, and a hang condition resulting in a loss of access to data. The hung bus is required for the system to monitor power system status. The system is unavailable until CE recovers it. This condition is indicated bymessages indicating a loss of communication to the RPC from both CECs. The result is the machine is powered on but unable to provide data access. Modified data not yet on disk is still in the NVS memory. This data is written to disk as part of the recovery process.
2. Potential Impact of Problem: Loss of Access
3. Problem Severity: HIPER
4. Pervasive Problem: Yes
5. Release Bundle: 75.1.145.1
ID#: 238039

Cluster failover during CCL results in reboot of controlling cluster
1. **Problem Description:** In Quiesce on the Taking CEC, in phase 4500, the NVS ownership is changed from remote to local. Then in phase 4700, a flag is set to cause the PSCBs to be initialized and take the local NVS First Customer Segment into account.

   If a Failover occurs in between quiesce phase 4500 and 4700, AND if the First Customer Segment in the local NVS is further into memory than the First Customer Segment of the remote NVS, then the code incorrectly uses the First Customer Segment from the remote NVS and causes the 0xE1AE panic.

   The First Customer Segment can be different due to Concurrent Memory Size change to Increase the NVS size, or due to adding new structures to the NVS memory.
2. Potential Impact of Problem: Loss of Access
3. Problem Severity: HIPER
4. Pervasive Problem: Yes
5. Release Bundle: 75.0.177.0
ID#: 237987

Moderate: A system path is not operational or performance may be degraded.

Adding LUN(s) for iSeries host results in PPRC-XD duplex pending
1. Problem Description: When adding LUNs to an iSeries host, the format of a new LUN and PPRC relationship can encounter a deadlock. The PPRC-XD relationship will be in a DUPLEX_PENDING state. Warmstart will reset the control block and correct the deadlock condition caused by a microcode error.
2. Potential Impact of Problem: PPRC relationship stuck in duplex pending
3. Problem Severity: Moderate
4. Pervasive Problem: Yes
5. Release Bundle: 75.15.92.0
ID#: 172111

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Unexpected IEA491E message during PPRC Freeze
1. **Problem Description:** An IEA491E message is sent due to incorrect handling of a PPRC error code.
2. **Potential Impact of Problem:** Copy services automation failures
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 75.15.92.0
ID#: 242479

Host adapter time-out during warmstart causes cluster failover
1. **Problem Description:** When a host adapter fails to respond to an internal command during warmstart then recursive warmstart and cluster failover can result. The host adapter should be fenced instead of cluster failover.
2. **Potential Impact of Problem:** Cluster failover
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 75.15.92.0
ID#: 253260

Global Copy initial copy performance is slow
1. **Problem Description:** Global Copy initial copy performance is slow when the target mapping is not 1:1 due to a microcode error.
2. **Potential Impact of Problem:** Increased copy times
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 75.15.84.0
ID#: 245034

Establish PPRC Pair fails with ANTP0208I
1. **Problem Description:** When running the Establish PPRC Pair command with message required, if the asynchronous processing completes before the command chain completes the attention interrupt is raised and there is no message placed on the attention list for the next RSSD command to read.
2. **Potential Impact of Problem:** Job failures
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 75.15.84.0
ID#: 255582

Metro Mirror freeze when FlashCopy issues to Global Mirror primary
1. **Problem Description:** Metro Mirror freeze occurs when FlashCopy to Global Mirror primary devices. When the FlashCopy is copy complete and host issues PRSD 46 to terminate the relationship a microcode error causes a freeze of the Metro Mirror.
2. **Potential Impact of Problem:** Metro Mirror freeze
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 75.15.67.0
ID#: 252355

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Concurrent Copy fails with 0F-44 sense
1. **Problem Description:** When a device is part of a suspended XRC session a concurrent copy job will fail with F0-44 sense, indicating the device already belongs to the maximum number of sessions due to a microcode error
2. **Potential Impact of Problem:** Concurrent copy jobs fail
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 75.15.67.0
ID#: 247267

PPRC suspend during code load
1. **Problem Description:** Re-establish of some PPRC pairs fails during the cluster failback after having code loaded.
2. **Potential Impact of Problem:** PPRC suspend
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 75.15.59.0
ID#: 249836

Long distance Global Mirror drain failures due to time-out
1. **Problem Description:** In a long distance Global Mirror environment, the drain time calculation produces an inaccurate result when number of volumes with OOS tracks becomes few.
2. **Potential Impact of Problem:** Drain failures
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 75.15.59.0
ID#: 244488

Internal I/O fabric error fences I/O bay due to timeout
1. **Problem Description:** A microcode error fences the I/O bay when the cluster should have been fenced due to a timeout when receiving split status on PCIe interface.
2. **Potential Impact of Problem:** Fenced I/O Bay or cluster
3. **Problem Severity:** Moderate
4. **Pervasive Problem:** No
5. **Release Bundle:** 75.15.38.0
ID#: 244315

Service: A recoverable error, Service improvements.
Easy Tier statistics can be incorrect due to a microcode error
1. **Problem Description:** Easy Tier statistic will be wrong for a rank that has "VR" in the serial number.
2. **Potential Impact of Problem:** Ranks with "VR" in the serial number are not getting correct extent utilization information for the migration plan
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 75.15.92.0
ID#: 253019

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ESSNI client command failures
1. **Problem Description:** When an ESSNI client disconnects some cleanup of HMC resources is required. If user2 logs on immediately after user1 logs off then ESSNI clients such as DSCLI will have command failures. SNMP trap off-load will not work when ESSNI is in this state.
2. **Potential Impact of Problem:** ESSNI client and SNMP trap issues
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 75.15.84.0
ID#: 257061

Isolation improvement for host adapter LRC error
1. **Problem Description:** Problem isolation did not isolate a host adapter with the serviceable event. An analysis procedure was identified. The host adapter will not be identified.
2. **Potential Impact of Problem:** Problem isolation more difficult
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 75.15.67.0
ID#: 256347

PPRC sync task encounters track that is "Write in Progress"
1. **Problem Description:** In GM a PPRC sync task encounters a track that has status of Write in Progress and a microcode error causes a warmstart.
2. **Potential Impact of Problem:** Warmstart, no suspend
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 75.15.67.0
ID#: 250065

Volume deletion fails for alias volume being detected as in use
1. **Problem Description:** During deletion of an alias volume a microcode error can cause a cluster failover and failback when checking if the alias volume is in use.
2. **Potential Impact of Problem:** Cluster failover and failback
3. **Problem Severity:** Service
4. **Pervasive Problem:** No, High if using WLM and Standard PAV
5. **Release Bundle:** 75.15.38.0
ID#: 247971

Creating a track space efficient volume in hybrid extent pool fails
1. **Problem Description:** Creating a TSE volume in a hybrid extent pool the volume is not created correctly, virtual extent allocation method is not used.
2. **Potential Impact of Problem:** Can not create TSE volumes in a hybrid extent pool.
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 75.15.38.0
ID#: 246424

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Storage Enclosure installation fails due to 0 capacity DDM
1. **Problem Description:** During SE systemLevelActivate, the are instances where in the issraid output is truncated. Consequently, a ddm attribute, disk capacity, cannot be obtained and results in a failure.
2. **Potential Impact of Problem:** Extended installation time
3. **Problem Severity:** Service
4. **Pervasive Problem:** Yes
5. **Release Bundle:** 75.0.184.0
ID#: 245540

Host adapter relocation and installation may fence the adapter
1. **Problem Description:** When relocating one host adapter and installing a new adapter in the previous slot of the relocated host adapter both of the host adapters may be fenced.
2. **Potential Impact of Problem:** Fenced host adapter during install
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 75.0.177.0
ID#: 235541

BBU can be fenced incorrectly during battery test
1. **Problem Description:** BBU can be fenced incorrectly during the battery test when there are 3 BBUs in a minimally configured expansion frame.
2. **Potential Impact of Problem:** Unneeded service action
3. **Problem Severity:** Service
4. **Pervasive Problem:** No
5. **Release Bundle:** 75.0.177.0
ID#: 237743

Improvements: Improvement for better usability
Enable customer notification of DA Sparing
1. **Problem Description:** When DA Sparing is enabled by the control switch settings a customer notification event will be generated.
2. **Potential Impact of Problem:** None
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** N/A
5. **Release Bundle:** 75.15.92.0
ID#: 259464

Call home and customer notification of warmstart
1. **Problem Description:** Call home and email notification to the user when a warmstart occurs can be enabled by IBM support.
2. **Potential Impact of Problem:** None
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** N/A
5. **Release Bundle:** 75.15.92.0
ID#: 255111

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Security fix for Java JRMs running on the HMC
1. **Problem Description:** https://www-304.ibm.com/support/docview.wss?mynp=OCSTXN8P&mync=E&uid=ssg1S1003877&myns=s028
2. **Potential Impact of Problem:** None
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** N/A
5. **Release Bundle:** 75.15.84.0
ID#: 258450

GM environment with long distance PPRC link utilization issue
1. **Problem Description:** In a GM environment with long distance PPRC links, increased RPO times will result if only a few volumes have high activity. The link utilization is lower in this scenario.
2. **Potential Impact of Problem:** Improved RPO times
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** N/A
5. **Release Bundle:** 75.15.59.0
ID#: 247309

STAT tool provides invalid output if input files have different dates
1. **Problem Description:** The heat map output from the STAT tool is not accurate if the two input files have more than 1 day time difference.
2. **Potential Impact of Problem:** Heat map is inaccurate, no error
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** N/A
5. **Release Bundle:** 75.15.38.0
ID#: 246674

Volume migration requires all 'normal' ranks in target extent pool
1. **Problem Description:** Manual volume migration in EasyTier checks that all ranks in the target extent pool are in a normal state. This improvement will allow ranks in normal or reserved states to be used as targets for volume migration.
2. **Potential Impact of Problem:** Improvement, none
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** N/A
5. **Release Bundle:** 75.15.38.0
ID#: 246073

Enable SSH v2 on the HMC
1. **Problem Description:** SSH v2 has been enabled on the HMC, SSH v1 has been disabled on the HMC. This change removes security exposures in SSH v1 and improves HMC security.
2. **Potential Impact of Problem:** None
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** N/A
5. **Release Bundle:** 75.15.38.0
ID#: 242990

DSGUI shows inaccurate information in the System Summary panel

1. **Problem Description:** The DS GUI will display incorrect information in the System Summary panel due to a microcode error.
2. **Potential Impact of Problem:** Incorrect information about system performance is being provided to the user.
3. **Problem Severity:** Improvement
4. **Pervasive Problem:** N/A
5. **Release Bundle:** 75.15.38.0

ID#: 246670

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